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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,902	06/26/2002	Hiroki Oka	07553.0031	4602

7590 06/03/2004

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EXAMINER

MACARTHUR, SYLVIA

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 06/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

SUPPLEMENTAL
Office Action Summary

Application N .

10/070,902

Applicant(s)

OKA, HIROKI

Examiner

Sylvia R MacArthur

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/24/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) *for 6/2/04*
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 13, 15-19, 21, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Noritaka (JP 11-214489).

Regarding claims 13, 18, 19: Noritaka teaches a platform which can be extended and contracted in response to the up and down motion of a drive shaft (3). The platform is moved by the piston (4a) comprising an air cylinder (4).

A first annular body (3a) that is secured to a drive shaft inside a vacuum chamber. A second annular body (4a) rotatably supported by said first annular body and moving up/down with first annular body as one body. The vacuum O ring for a flange and a 5a carrying out the vacuum seal of between flange 5A (first seal) and shafts 3 in 5A and 5b may exhaust the side of bellows 6, it is the exhaust port prepared in flange 5A.

Regarding claim 15: The limitation that the vacuum chamber is a vacuum cassette chamber is a matter of an intended use. Noritaka describes the chamber as a vacuum treating chamber and the driven body is stage on which the substrate is transported in/out of the chamber. Noritaka is capable of utilizing a cassette in the apparatus rather than a single wafer.

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Regarding claims 16 and 21: O-rings 5a (second seal) ensure that the drive shaft airtightly passes through an inner wall of the vacuum chamber that allows movement of the drive shaft.

Regarding claims 17 and 24: Control unit 16 comprises a means for pressure adjustment.

3. Claims 13, 15, 18, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Fumio et al (JP 07-231028).

Regarding claims 13, 18 and 19: Fumio teaches a vacuum device comprising a driven body (platform 1), a driving means (stepping motor 33) provided outside the vacuum chamber. The motor moves the body up/down and allows it to rotate.

A drive shaft 2 connects the driven body to the driving means. A first annular body 6 and a second annular body 34 are also provided. A bellows 3 expands and contracts to seal the drive shaft. A first seal member 34 is provided

Regarding claim 15: The limitation that the vacuum chamber is a vacuum cassette chamber is a matter of an intended use. Fumio describes the chamber as a vacuum treating chamber and the driven body is stage on which the substrate is transported in/out of the chamber. Fumio is capable of utilizing a cassette in the apparatus rather than a single wafer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noritaka or Fumio et al in view of Takashi et al (JP 05-332456).

The teachings of Noritaka were discussed above.

Both fail to teach that the first and second annular bodies achieve a male/female fit with each other.

Takashi teaches first and second seals (annular bodies) 11 and 12. Figures 1 and 2 illustrates that they fit by male/female connection.

The motivation to modify the first and second annular bodies of Noritaka or Fumio is that this structure provides an excellent labyrinth effect, which can seal a clearance in the axial direction of both annular members.

Thus, it would have been obvious for one of ordinary skill in the art at the time of the claimed invention to modify the first and second annular bodies of Noritaka or Fumio to incorporate the teachings of Takashi et al.

Allowable Subject Matter

5. Claims 22 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or fairly suggest an auxiliary shaft.


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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sylvia R MacArthur whose telephone number is 571-272-1438. The examiner can normally be reached on M-F during the core hours of 8 a.m. and 2 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory L. Mills can be reached on 703-308-1633. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Sylvia R MacArthur
Patent Examiner
Art Unit 1763

May 17, 2004